OXC-0262-60
1 of 1

22 January 1960

Dear Doc,

Enclosed herewith is a copy of our vacuum furnace specifications. We have put this out for quote to several vendors. The range of prices, so far, is $20,000 to $60,000.

STATINTL [redacted] and I discussed similar units that he might be able to make available. I promised to send him the specifications through you so that he could determine whether any of the government owned chambers would be appropriate.

We would certainly be pleased to obtain this as GFE, if possible. In order to obtain these chambers by June, we should place orders fairly quickly. We would, therefore, like to know what might be available through Government Supply fairly quickly.

Best regards,

Milt

Milt

MDR:mb

Enclosure

PROCUREMENT SPECIFICATION
PRESSURE AND TEMPERATURE
TEST CHAMBER

1. SCOPE

This specification establishes the performance requirements and subcontractor responsibility for the design and manufacture of a pressure and temperature test chamber.

2. APPLICABLE DOCUMENTS

Drawings: X547-0014 - Test Chamber, Vacuum
X547-0033 - Test Chamber, Pressure and Temperature

3. REQUIREMENTS

The unit shall be designed using good commercial practice to meet the performance requirements contained herein.

3.1. Configuration

3.1.1. The chamber shall have either of the general configurations shown in drawings X547-0014 and X547-0033.

3.1.2. The contour of the test space internal wall and test specimen support configuration shall be established through contractor and sub-contractor liaison during the design stage.

3.1.3. There shall be a minimum of four (4) foot clearance beneath the test space enclosure.

3.1.4. There shall be a minimum of 30" clearance above the test space enclosure.

3.1.5. The overall size of the chamber shall be the minimum practicable. The chamber shall be designed for installation in a facility with a 12' ceiling height and minimum portal of 7' high x 8' wide.

3.1.6. The test space shall be accessible from the top, bottom and one end. The top and bottom opening shall be a minimum of 36" wide and 60" long. The end opening shall be a minimum of 36" diameter. Each access cover shall be provided with a means of handling.

3.1.7. A window shall be provided in each side and end of the chamber. These windows shall be a minimum of 18" x 18".

3.1.8. All control and recording devices shall be panel mounted on or adjacent to the chamber.

3.1.9. Pressure and heating connections shall be made at the end opposite the 36" diameter access opening.

3.2. Temperature Requirements

3.2.1. There shall be six (6) independent temperature surfaces in the test space. These are the two sides, two ends and top and bottom of the test space internal wall.

3.2.2. Each temperature surface shall be capable of independently controlled temperature variations from 120°F to +700°F.

3.2.3. The chamber shall be capable of maintaining a selected temperature within ± 15°F.

3.2.4. Temperature variations along any temperature surface shall not exceed ±20° of the control point temperature.

3.2.5. The actual temperature of each test space surface shall be displayed and recorded with an accuracy of ±5°F.

3.2.6. The external surfaces of the chamber shall not have a temperature rise of more than 15°F above ambient room temperature during maximum continuous duty cycle.

3.2.7. The chamber shall be capable of attaining the maximum temperature at each surface within two (2) hours.

3.3. Pressure Requirements

3.3.1. The chamber shall be capable of withstanding pressures from sea level ambient to 10^{-2} mm of Hg.

3.3.2. The system shall be capable of achieving minimum pressure within two (2) hours.

3.3.3. The system shall be capable of maintaining a stabilized pressure within ±10%.

3.3.4. The actual pressure shall be displayed and recorded with and accuracy of ±5%.

3.4. General Requirements

3.4.1. Means shall be provided for illuminating the inside of the chamber.

3.4.2. A warning light shall be provided to indicate that the chamber is in operation at temperatures above 120°F and pressures below ambient.

3.4.3. Automatic shut off shall be provided to prevent damage due to overheating.

3.5. Operational Conditions

3.5.1. The chamber shall be capable of maximum performance for ten (10) hours continuous operation.

3.5.2. The chamber shall be capable of operation from either a 100 KW at 208 V or 50 KW at 115 V power source.

3.5.3. The chamber shall be operated in an ambient nominal room temperature of 78°F.

4. QUALITY ASSURANCE

4.1. Prior to manufacture a design approval package shall be submitted to the contractor for approval. This package shall contain sufficient information to establish that the design meets contractor requirements.

4.2. Prior to delivery the chamber shall be tested at the subcontractor's plant to insure conformance with the requirements of this specification and the design approval package.

Acceptance of the chamber will be contingent upon satisfactory demonstration of performance to the contractor's engineering representative.

5. SUBCONTRACTOR RESPONSIBILITY

5.1. The subcontractor shall be responsible for installation and checkout at the contractor's facility, Norwalk, Connecticut.

5.2. The subcontractor shall supply specifications for the preparation of the facility to accept the chamber.

5.3. The subcontractor shall supply four copies and one reproducible of an operation and maintenance manual in accordance with good commercial practice.

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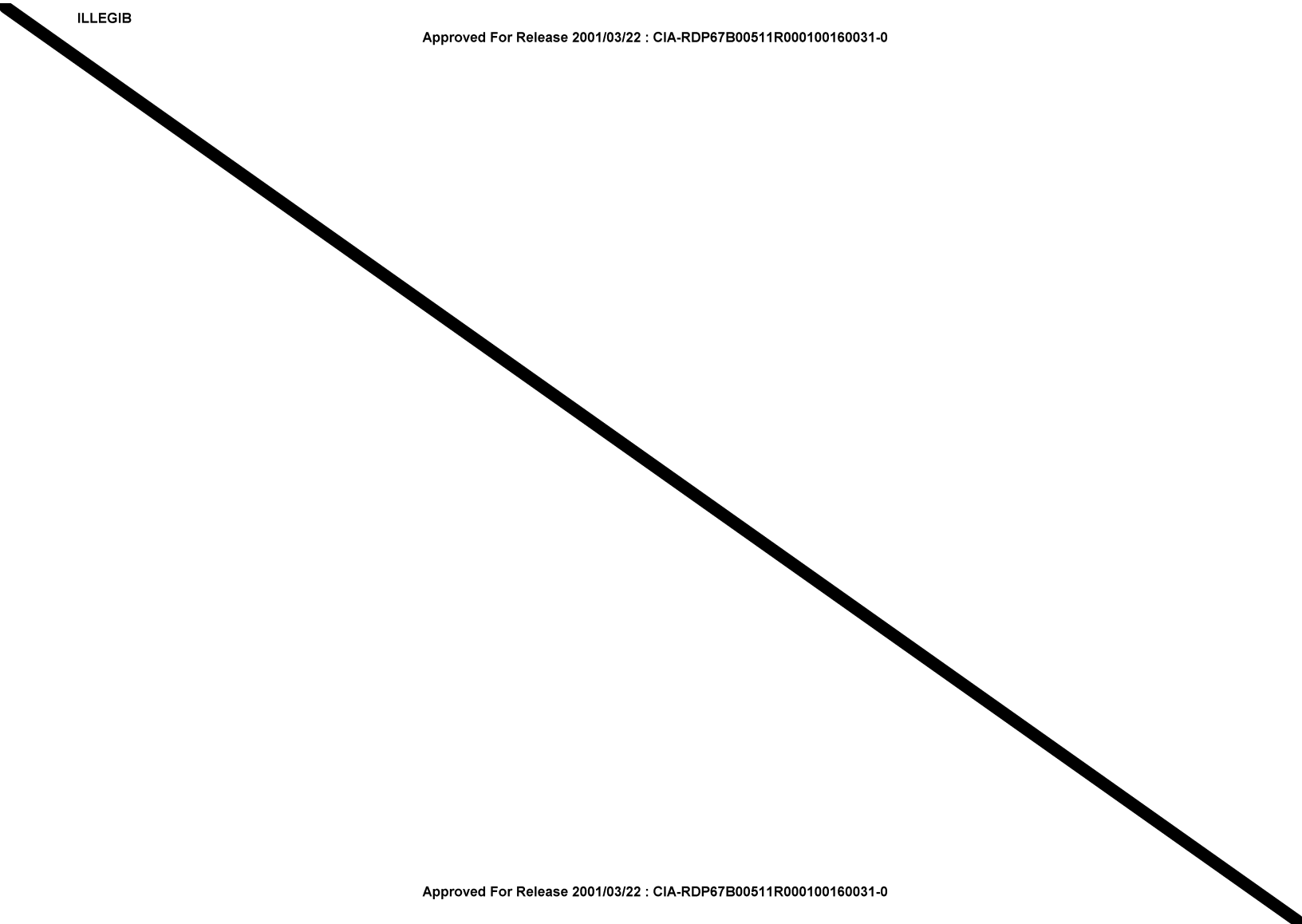

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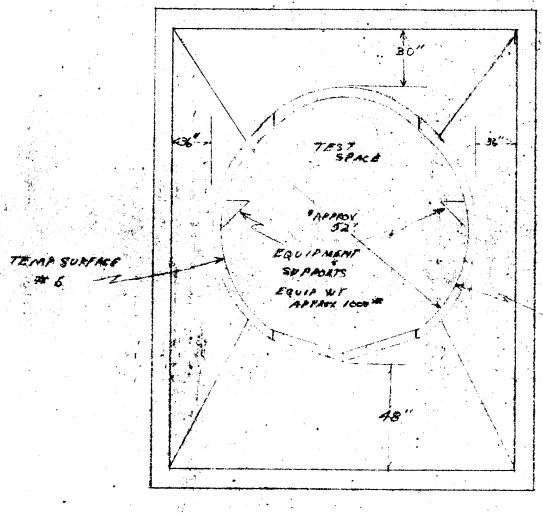

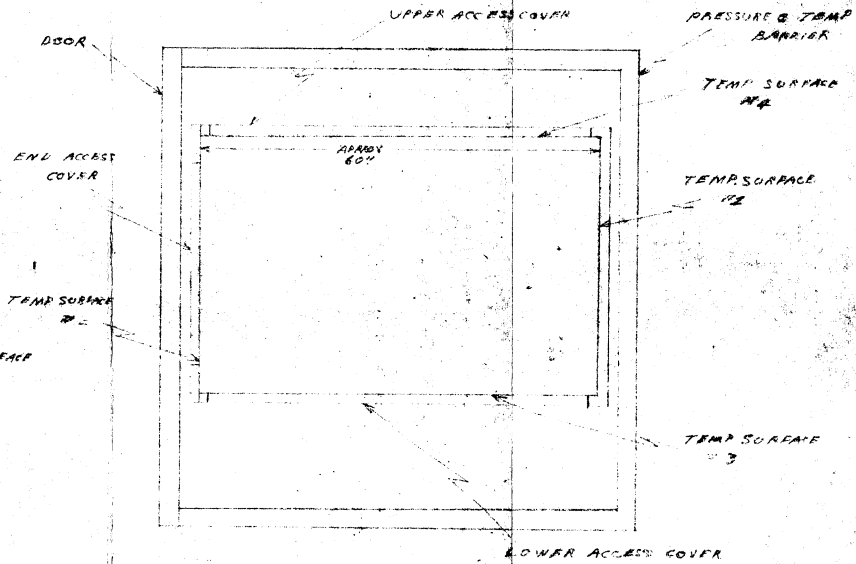

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UNLESS OTHERWISE SPECIFIED	ORIGINAL DATE OF DRAWING 1-22-63	TEST CHAMBER PRESSURE & TEMP. BARRIER	[redacted]
DIMENSIONS ARE IN INCHES FRACTIONS ± DECIMALS (2 PLACES) ± ANGLES (3 PLACES) ±	DRAFTSMAN [redacted]		
SHARP CORNERS TO BE .005 MAX. RADIUS. CHAMFERS NOT DIMENSIONED TO BE .02 X 45° ANY 2 DIAS. CONCENTRIC WITHIN .006 T.I.R.	CHECKER		
√ SURFACES TO BE √ RMS	APPROVED		
MATERIAL	APPROVED		DRAWING NO.
	APPROVED		